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XPLORING A NEW HYPOTHESIS FOR THE RAPID RISE OF OLON CANCER IN JAPAN AND SINGAPORE: REDUCTION F IMMUNOSURVEILLANCE BY THE LOSS OF YMBIOTIC APICOMPLEXA PROTOZOA. *D A Juckett, C F ylsworth, J M Quensen, and B Rosenberg. (Barros Research ıstitute, Holt, MI 48842)

he rapid rise in colon cancer within modernizing countries has not been lequately explained although several risk factors related to diet have been oposed and extensively explored in this and other settings. In a recent ıper (Rosenberg et al., Int. J. Canc., DOI: 10.1002/ijc.20801), we showed at the presence of the endemic *Eimeria spp.* protozoan in intestinal tissues associated with regions of low tumorigenesis in the large and small ovine intestine and that an *Eimeria* surface protein is a potent activator of endritic cells and a useful immunostimulant. We suggest that it may also ıhance immunosurveillance by elevating the intestinal alert status. Since olon cancer is rare among vertebrates harboring *Eimeria*, the unusually gh incidence in select human populations may be due to the elimination of is and related protozoa by modern sanitation. To determine if this hypoth- iis warrants investigation, a preliminary exploration of the ecological data r Japan and Singapore populations was undertaken. We show that colon ıncer in these countries began to rise before changes in dietary patterns, pecially in older populations less likely to alter their diets. This violates e tenet of causality. In contrast, the cessation of agricultural use of urban ghtsoil precedes the rise in colon cancer. This change in fertilizer practice ould break the protozoa's lifecycle and lead to the loss of this potential mbiont. We present both incidence and mortality time trends and compar- ons to sanitation and lifestyle indicators. We conclude that this hypothesis worth further consideration.

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HORMONE REPLACEMENT THERAPY AND COLORECTAL ADENOMA: DATA FROM THE PROSTATE, LUNG, COLORECTAL AND OVARIAN (PLCO) CANCER SCREENING TRIAL. *M P Purdue, P J Mink, P Hartge, W-Y Huang, J Weissfeld, S Buys, R B Hayes (Division of Cancer Epidemiology and Genetics, National Cancer Institute, Rockville, MD 20892)

PURPOSE: Findings from some epidemiologic studies of colorectal cancer and adenoma in women suggest that the protective effect of hormone replacement therapy (HRT) may differ across categories of post-menopausal age and body mass index (BMI). We conducted an analysis of women participating in the Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trial to investigate the relationship between HRT use and prevalent adenoma, with assessment of age and BMI subgroup-specific risks. METHODS: We identified 1,468 women with at least one left-sided adenoma and 19,203 women without adenoma or colorectal cancer. Information about HRT and reproductive factors was obtained from a self-administered questionnaire. RESULTS: Compared to never use of HRT, current use was associated with a decreased prevalence of left-sided adenoma (odds ratio (OR) 0.85; 95% confidence interval 0.75–0.97). We found no evidence of dose-response with increasing duration of use for current or former users. The association with current HRT use was stronger among women aged 65+ (OR 0.94, 0.69 among women aged <65 and 65+ respectively; $P_{interaction} = 0.03$) and among women with a BMI < 30 (OR 0.83, 0.95 among women with BMI < 30, 30+ respectively; $P_{interaction} = 0.40$). Reproductive factors were not significantly associated with adenoma prevalence. CONCLUSION: We found a reduced prevalence of adenoma with current HRT use, particularly among older women.

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IETARY PHYTOESTROGEN INTAKE IS ASSOCIATED ITH REDUCED COLORECTAL CANCER RISK. *M otterchio, B Boucher, M Manno, S Gallinger (Cancer Care ntario, Toronto, ONT Canada)

hytoestrogens may reduce the risk of certain hormone-mediated cancers. lthough this relationship has been most extensively studied with breast and rostate cancers, a possible protective role with colorectal cancer has also been ggested; though a paucity of studies have evaluated this. Phytoestrogens are lant compounds with non-steroidal estrogen-like activities. Important sources clude isoflavones which are mostly found in legumes (eg., soy) and lignans hich are widely distributed in grains, nuts, fruits, and vegetables. Isoflavones ave dominated phytoestrogen research since they are major dietary components Asia where hormone-dependent cancers are less prevalent. However, lignans re the most abundant phytoestrogen in North American diets therefore it is nportant to measure total phytoestrogen intake, and only recently has this been ttempted by modifying food frequency questionnaires and analytic databases. Ve conducted a colorectal cancer case-control study. Cases were diagnosed with olorectal cancer, between 1997 and 2000, aged 20–74 years, identified through ie population-based Ontario Cancer Registry and recruited by the Ontario amilial Colorectal Cancer Registry. Controls were a sex- and age-matched ran- om sample of the population of Ontario. Approximately 1120 cases and 1900 ontrols completed epidemiologic and diet food frequency questionnaires. Multi- ariate logistic regression analysis was used to obtain adjusted odds ratios (OR) stimates. We found that lignan intake was associated with a significant reduc- on in colorectal cancer risk (OR (T1 vs T3) =0.73; 95% CI: 0.56, 0.94). Isofla- one intake was also significantly associate ancer risk (OR (T1 vs T3) =0.77; 95% CI: 0.58, 0.86). This finding that phy-

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ASSOCIATION BETWEEN COLONIC SCREENING, SUBJECT CHARACTERISTICS AND STAGE OF COLORECTAL CANCER. *L Fazio, M Cotterchio, M Manno, J McLaughlin, S Gallinger (Cancer Care Ontario, Toronto, Ontario M5G 2L7)

Colorectal cancer survival is highly dependent on stage at diagnosis. This study evaluated the association between subject factors and stage of colorectal cancer at diagnosis. Population-based cases recruited by the Ontario Familial Colon Cancer Registry (OFCCR) diagnosed between 1997 and 1999 were staged according to the tumor-nodal-metastasis (TNM) staging system and classified as early (TNM I/II) or late (TNM III/IV) stage. Multivariate logistic regression was used to determine associations between subject factors and late (versus early) stage colorectal cancer. Among 768 cases, 60% were early and 40% were late stage. The most significant predictors of late stage in the multivariate model were: age at diagnosis compared to <45 years of age: (45–59: OR = 0.36 95% CI 0.18–0.74 and (60+: 0.30 95% CI 0.15- 0.60), rural residence (OR = 1.5; 95% CI 1.0 – 2.17), non-white race (OR = 3.3; 95% CI 1.2 – 9.3), first degree relative with colorectal cancer (OR = 0.7; 95% CI 0.5 – 0.9), and screening endoscopy (OR = 0.5; 95% CI 0.2 – 1.0). Increased vegetable consumption was associated with a decreased risk of late stage cancer, and was of borderline significance. In the adjusted analysis age > 45 years, a first degree relative with colorectal cancer and screening endoscopy were associated with early (versus late) stage and rural residence and being non-white was associated with late (versus early) stage. Colorectal cancer screening and awareness probably likely to present with late stage cancer.